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THE PHOTOGRAPHIC TIMES

An Illustrated Monthly Magazine

Devoted to the interests of

Artistic and Scientific Photography

EDITED BY

W. I. LINCOLN ADAMS AND CHARLES H. PLUMP

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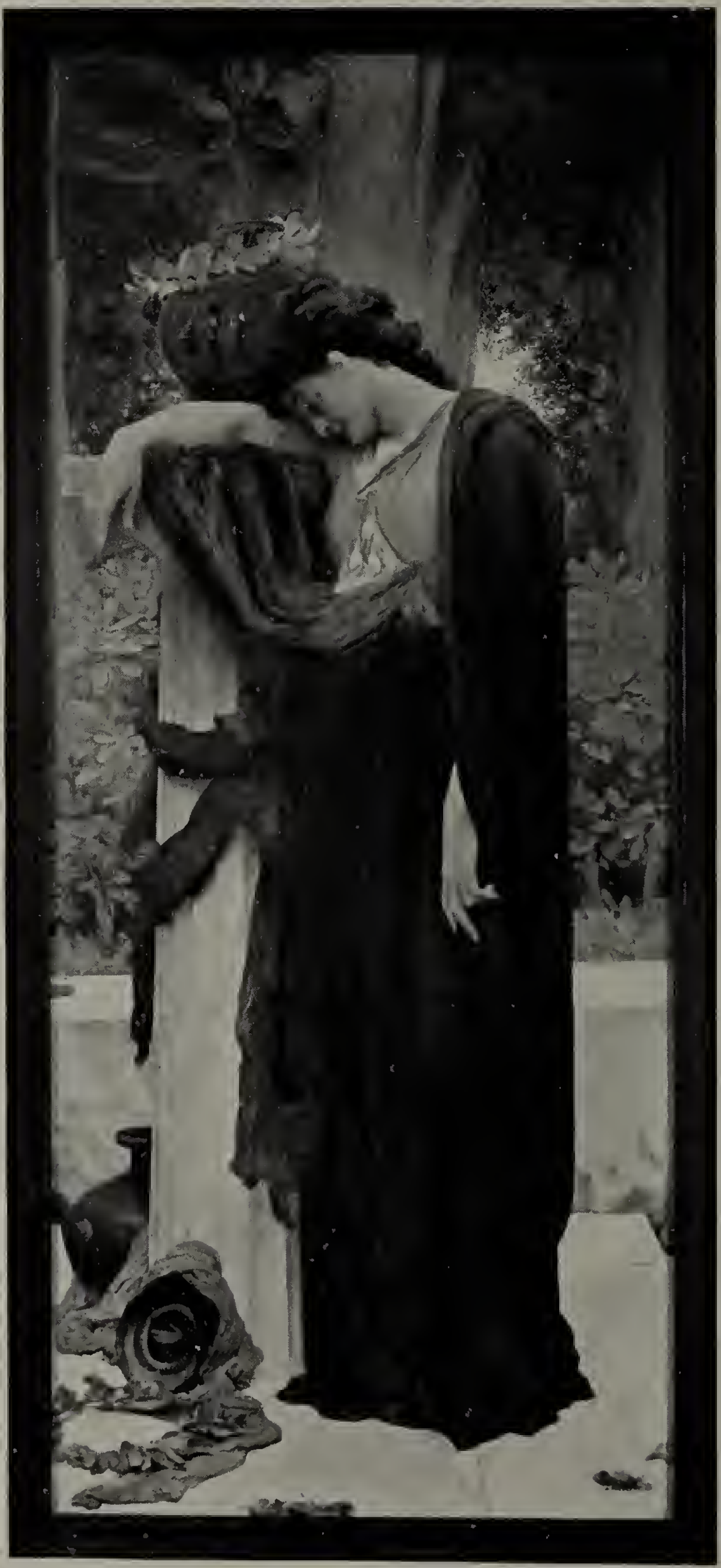


LACHRYMÆ. *Leighton.*

Property of The Metropolitan Museum of Art.

The
Photographic Times

VOLUME XL OCTOBER 1908 NUMBER 10

HOW PHOTOGRAPHERS MAY BE HELPED BY THE STUDY OF PAINTINGS.

BY SIDNEY ALLAN.

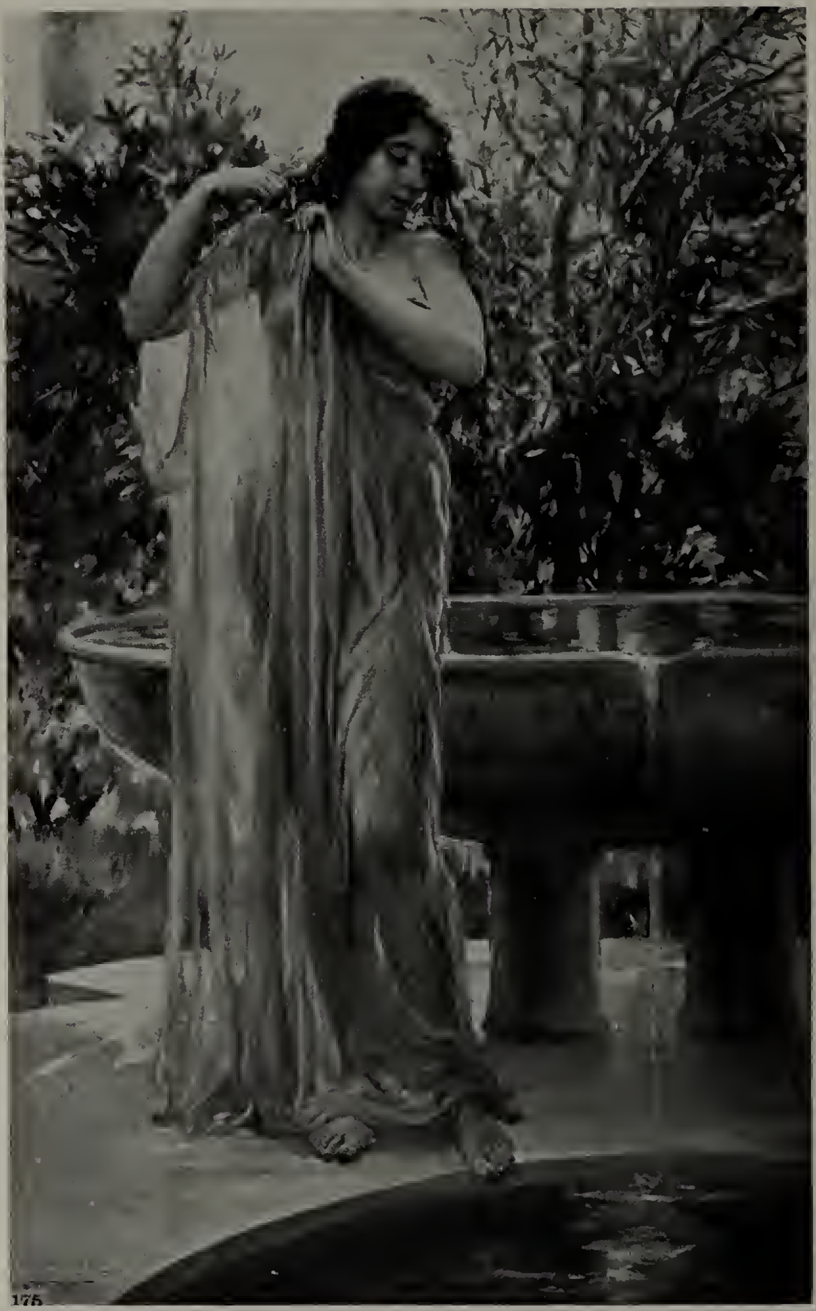
IN TWO PARTS—PART I.

Illustrated by seven figure subjects from the collection of paintings at the Metropolitan Museum of Art, New York.

IT is generally conceded, I believe, that the average amateur would greatly benefit by the study of paintings. The question is how. The majority of people do not seem to know exactly how to go about it. An occasional visit to a picture gallery or exhibition is hardly sufficient. To walk from one picture to another and to scrutinize closely merely those that specially appeal to you, may increase your knowledge of painting, but will hardly teach you those lessons that could be derived from a more systematical study. You should be absolutely clear in your mind as to what you wish and what you can learn from paintings. If you merely wish to improve your taste in a general way, a haphazard stroll will serve the purpose well enough. But should you be anxious to know how you could improve your own faculties as a photographer by it, it becomes an entirely different matter.

I will endeavor to illustrate in these two articles the various possibilities as to how the study of paintings may cultivate your powers of observation and reflection, and develop the creative and constructive faculties of your mind.

There exists one decided drawback. A painting is executed in color and a photograph is merely a monotone, and there are few people whose eyes are so well trained that they could imagine how a painting would look in black and white. The color arrangement of a painting always makes a decided impression upon one mind, and it is hardly impossible to get away from it. It would even take a wood engraver days of comparative study before he could clearly define the various studies of gray that would best express certain particularly interesting color notes in a painting, and for that particular reason I have always held the opinion that for photographic educational purposes, a good reproduction of a painting is more valuable than the

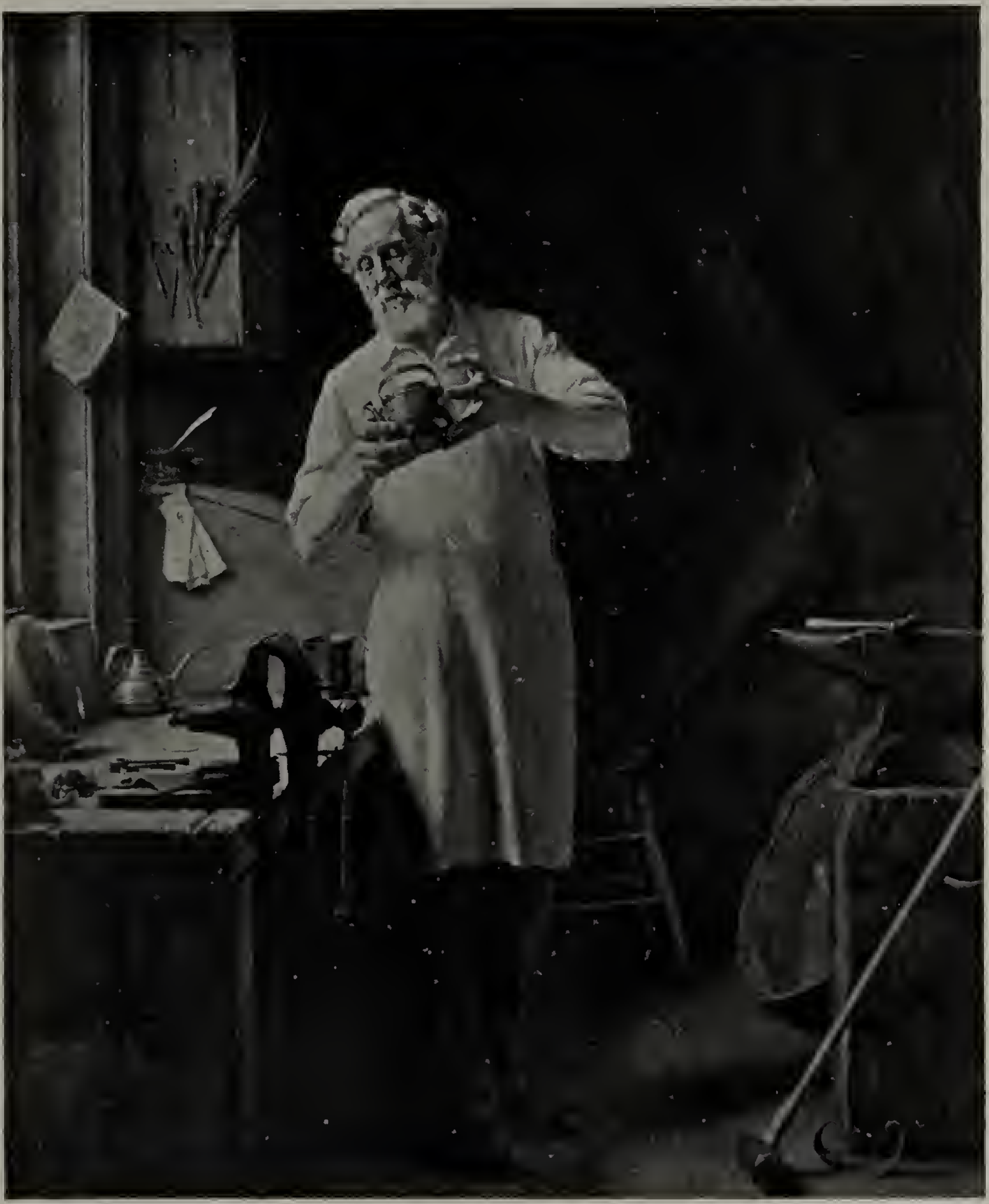


AURORA. *Low.*
Property of The Metropolitan Museum of Art.

painting itself. Only then the average amateur has something before him from which he can actually learn.

Of course, there are many paintings that are too ambitious in subject. Elaborate compositions combining a dozen or more figures, or pictures that are entirely imaginative are of little use to the photographic picture maker. It is quite natural that subjects of this order will not appeal to him as object lessons. But there is a large number of paintings, particularly those that treat subjects of a more realistic kind that can be reproduced by the camera. I have been careful to select only pictures that are photographically possible for illustrating this article.

Every one of the seven pictures could be made by a skilful amateur. I mean the possibility is there that it might be accomplished. We all know how rarely it is done. Why? Look at the pictures. What is the impression you get from them. What is it they have that photographic compositions generally lack. My contention is that they look more finished than photographic pictures do.



THE COPPERSMITH. *Ward.*
Property of The Metropolitan Museum of Art.

You realize that the artist has gone as far as he possibly could, that he has exhausted his subject. Of course we know that the painter, take for instance Ward, has painted on his picture "The Coppersmith" for several months. That accounts for the perfection of details. The photographer is so limited in that respect. He cannot change and rearrange, but the example set by such an artist is after all the ideal that all photographers have to strive for, and they must find a way, a method of work, by which they can approach it.

Let us analyze the pictures a little more carefully. Notice how carefully all the objects in the Ward picture have been placed. They do not look as if they were specially posed for the purpose of making a picture. They look absolutely natural, and are in no way obtrusive. The strongest light is concentrated upon the upper part of the figure and well balanced by the dark wall behind it. The shadows, despite the prospective depth they suggest, are all transparent, broken by details just a trifle lighter or darker than the dominant

EXPECTATION. *Israel.*

Property of The Metropolitan Museum of Art.

value in each instance. The light is managed with wonderful accuracy. Everywhere we see highlights, in the goosequill, on the handle of the hammer lying on the anvil, etc., but they are all brought into perfect harmony with the general tone of the picture. Particularly fine is also the management of the hands and the interested expression on the face.

For some people there may be too much detail in this picture. In the famous Vermeer picture, "Young Woman at a Window," we have an equal amount of detail, but it is treated in a softer way. The feeling for values is much finer, the treatment is less realistic, and the whole picture breathes an air of elegance, which true enough is fully due to the subject and the nature of the objects depicted. But the charm of the picture after all lies in the way it is done. The picture is particularly interesting from a photographic viewpoint because it presents the problem of placing a dark figure and dark objects in the foreground against a light background. It is very cleverly managed. Notice how the figure and objects are brought together by the white hood of the woman, the highlights on the platter, the jewel box, and the light piece of garment that is hung on the chair. The pose is a simple one. The difficulty would be the costuming and the right woman to impersonate the part. A realistic figure like the Coppersmith is more easily obtained. There are few models who can wear a historical costume with ease and grace, and the cos-

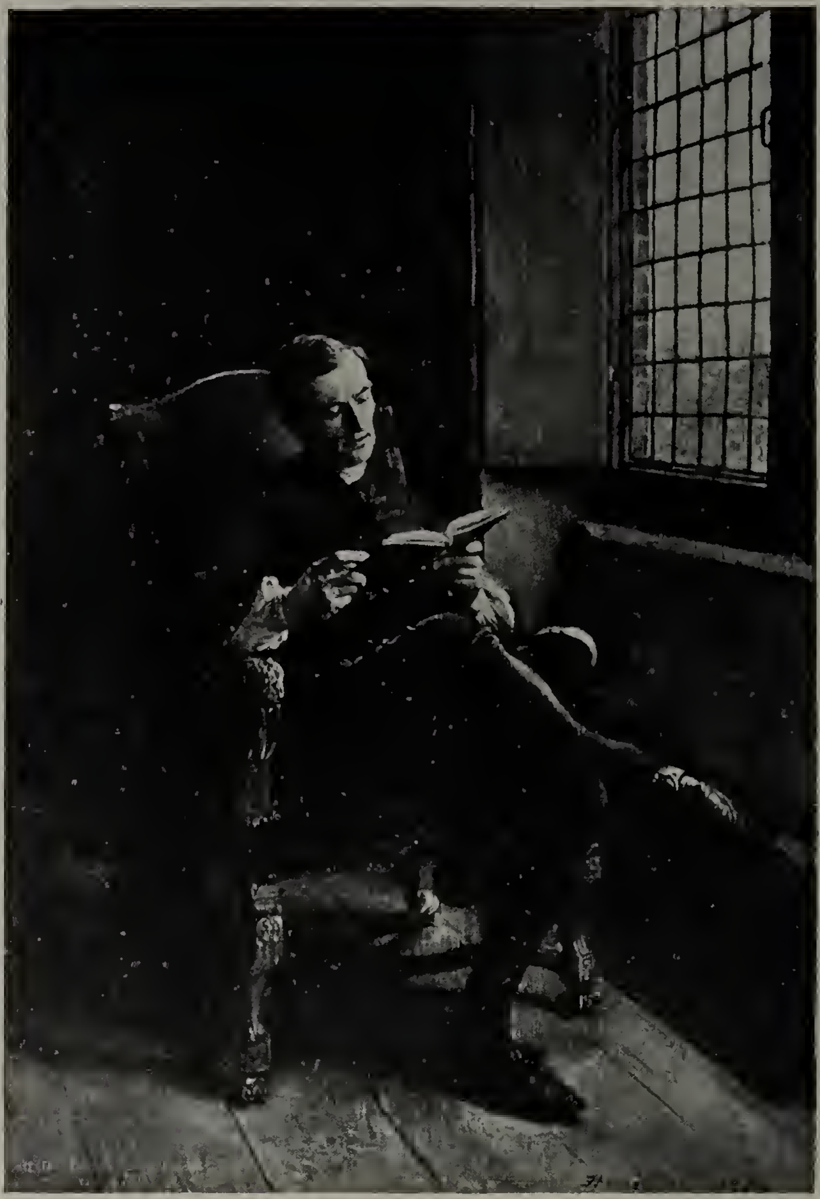
YOUNG WOMAN AT A WINDOW. *Vermeer.*
Property of The Metropolitan Museum of Art.

tume has to be well made, or it is apt to look awkward and theatrical.

The painting "Expectation," by Israel, is a comparatively easy one. The treatment is broad and effective, but it is largely the vague sentiment expressed in the figure which makes the picture what it is. The trouble is that one had to go to Holland to make a similar picture. American women dressed up in Dutch fashion never look right. A picture of this kind must convey the local flavor, and make the impression that it is the genuine article. Also here the light is exceedingly well managed. Photographers as a rule, do not give enough attention to the lighting, and yet it is the principal thing, as light is the element which produces contrast, and the harmonious division of lighter and darker planes—a quality which no good photograph should lack.

A similar subject is Meissonier's "Man Reading." How well the chair is managed and natural the pose of the reader is. In this picture, we have comparatively little light, but it just strikes the right places. There is the atmosphere of a quiet gray day in the picture, and there is air and space around the figure.

We now come to a few more ideal figures. The "Roman Girl at Fountain," by Bonnat, is not beyond the possibilities of an ordinary snapshot camera, *i.e.* if we can find a girl equally charming and graceful. I fear the quest would be a long one, but there is no use of snapping away all the time. It is much wiser to have a picture in one's mind, and to search for an opportunity to carry



MAN READING. *Meissonier.*

Property of The Metropolitan Museum of Art.

it out. It would need a lot of rehearsing before the little model would pose in such a way, but it can be done. Guido Rey has proven it. It may be difficult to reach the same linear perfection, particularly in the face and feet. There is no model without some shortcomings, but it is worth while striving for such perfection. It is worth the pains.

The "Aurora," by Low, is photographically easier than any other one. Any professional model who has posed for artists and knows the use and artistic possibilities could assume that pose and hold it for a sufficient time to be photographed. The success or failure of such a picture depends entirely on the arrangement of the drapery. Of course an appropriate background had to be found, but it would not necessarily need to be a classic one. A seriously composed picture will always demand a lot of time, forethought, and preparation.

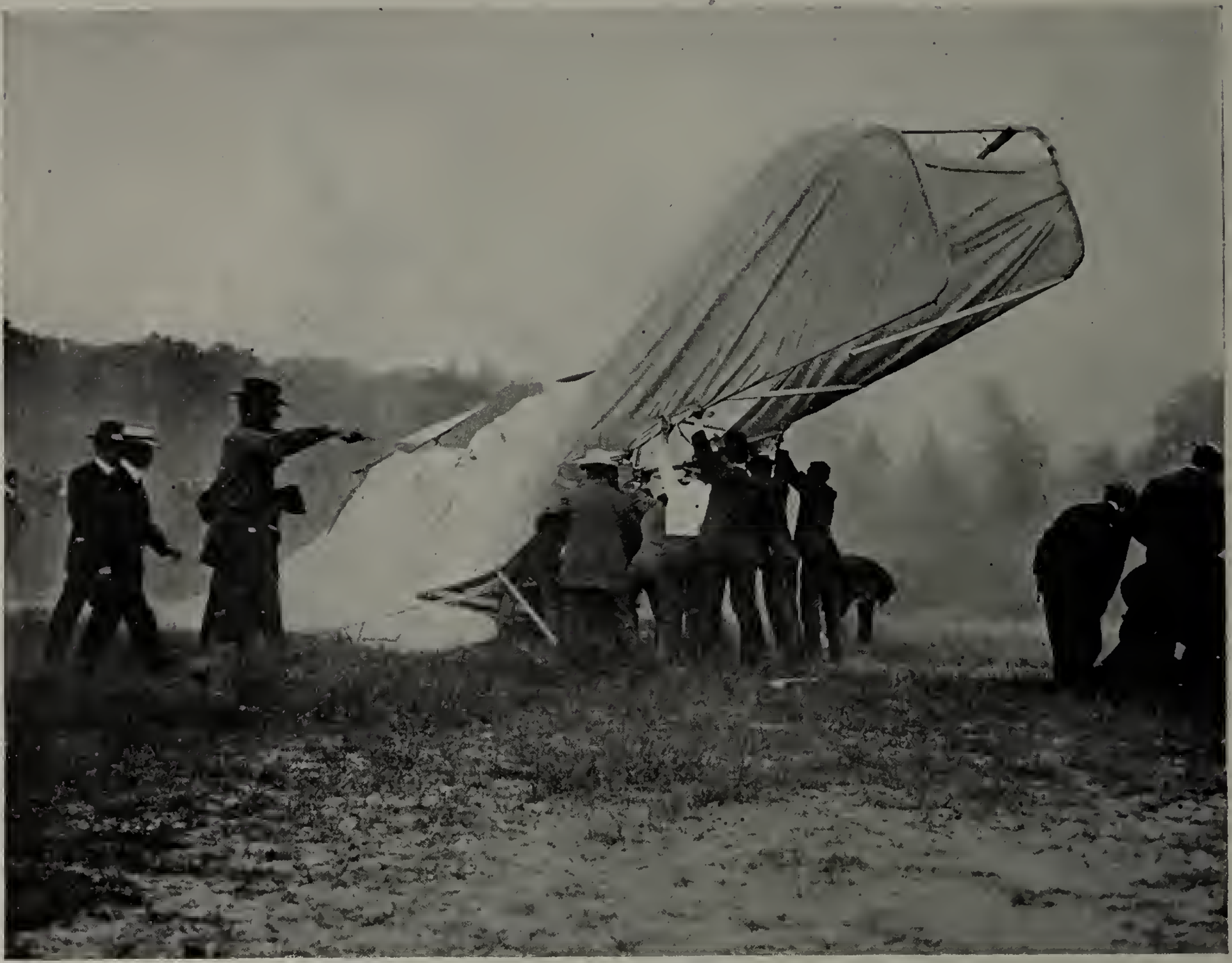
The most ideal subject and therefore the most difficult to take would be the "Lachryme," by Leighton. This picture appeals directly to the imagination, the figure expresses dignified sorrow, and an attempt to do with an ordinary model would never prove successful. It would take a great actress to impersonate an ideal figure like this, and Ellen Terrys

ROMAN GIRL AT FOUNTAIN. *Bonnat.*

Property of The Metropolitan Museum of Art.

and Sarah Bernhardts are not always at one's command. And it is not only the figure but the entire background which had to be treated with infinite care. In the Israel picture it would matter little if the basket were of a different shape or differently placed, but in the Leighton painting very laurel leaf and every fold of the drapery tells. It would tax the ability of a photographer to the utmost.

But there is no reason why an amateur should not work hard for a satisfactory result. What we lack most in our amateur photography to-day is ideas. The study of paintings if nothing else will suggest ideas. If you like a painting, try to make a similar one. Try to see what the artist saw, what he tried to record, what he considered worthy of permanent preservation and what thought he meant to convey. Then bring your own personality into play. Do not begin by thinking whether platinum or warm carbon will make the better print, but try to think first of the mental impression your picture is intended to make, then see that the subject is properly lighted, naturally posed, satisfactory, and the arrangement of all its details, and finally work back to the technical methods whether they are the best possible for making the desired impression.



The Wreck. Wright has been removed and is in the group to the right. Lieutenant Selfridge is being taken out.

THE AEROPLANE, THE DIRIGIBLE, THE CAMERA.

BY C. H. CLAUDY.

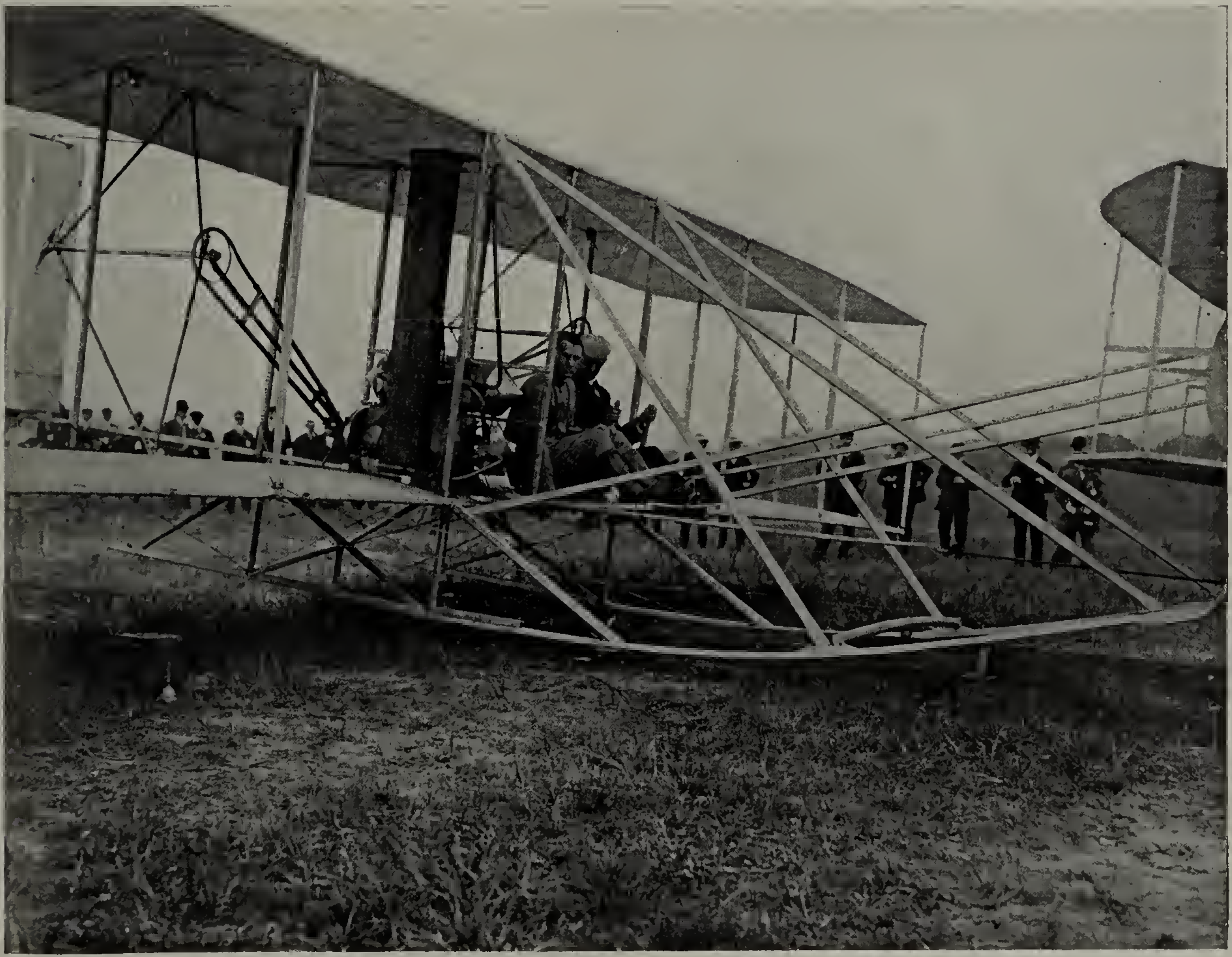
Illustrations by the Author.

RARELY has any event drawn to Washington, D. C., so many "Vultures of the Hour," as press photographers have been, not inaptly, called, as did the United States Government dirigible balloon and aeroplane trials. There were many more than I knew by name—and I knew a good many. There was Jimmy Hare, of *Collier's,* who has probably made more news pictures than any man alive—and W. H. Wallace, with his famous camera with a hole in it, top and bottom, through which light doesn't leak. A. Radclyffe Dugmore, of *World's Work,* and *Country Life in America* with a camera nearly as big as himself and the ready smile and joke which make him so welcome a companion—Strohmyer, of Underwood & Underwood, and later Ashton of the same firm—Strohmyer who was the privileged character at the last inauguration, and Ashton, who was to have photographed the Russian-Japanese war got marooned somewhere and couldn't—men from Lazernick & Levick and Geo. Grantham Bain and Clinedinst, of Washington, and the Pictorial News Company and a dozen others—and myself, for the New York *Herald,* and the Paris *Herald.*

I was, so far as I knew, the only man with the double assignment of story and pictures, and I was the only photographer and correspondent who saw and pictured every event, without a miss, from start to finish. I believe that my collection of pictures is the most complete in existence of the trials—if present plans carry, the Aerial Experiment Association, of which Lieutenant Selfridge was secretary and of which Dr. Alexander Graham Bell is president, will take enlargements from my negatives to form the nucleus of a photographic record of the events for permanent exhibition in the National Museum.

As I have some hundreds of negatives of the Baldwin and Wright flights any attempt to show it complete in magazine form is futile. It would take many pictures to a page and many pages of this magazine to begin to show them all. The few which are published are representative. Needless to say they, as with all others made by any one, were made strictly from the illustrative standpoint and nct at all from the pictorial standpoint.

The Baldwin dirigible was a simple thing to picture compared to Wright's express-train-flyer of the air. The Baldwin balloon made 19.61 miles per hour in its famous speed test, and going with the wind, made, possibly twenty-five miles an hour over the earth at its best. When pictured, its usual speed was less than fifteen miles an hour. It was a silver gray in color, picturing dark to black, and this, against a light sky made photographs possible in almost any lights. I took some of the first flights at seven thirty in the evening, with a



The last picture of Lieutenant Selfridge ever made of him in health. Wright is seen with his hands on the control levers. Selfridge nearest the camera has his right hand just pulling the trip which lets the aeroplane fly down the track.

Tessar at f4.5 and a focal plane shutter, working anywhere from the limit to one-tenth of a second,—and when you are using a one-tenth or a one twenty-fifth and stop motion the motion wasn't very fast.

It was a picturesque thing—this great gray bag with its tiny motor spitting fire and smoke and sounding like a battery of Gatling guns and because we could swarm over the field and get under it and choose our positions and photograph when and where we pleased, the job was, comparatively speaking, easy. With the Wright machine, everything was different. With a full knowledge of what might happen, Mr. Wright wisely inisted that the crowd be kept back from the field, and this prohibition applied to correspondents and photographers as well as sight-seers, at first. Later when Mr. Wright had gained knowledge of the machine and confidence, the rule was relaxed to some extent, and we were allowed more leeway. It was to Lieut. Selfridge and his good officers that I was personally permitted to get in position for several good pictures—orders had come from General Allen, Chief Signal Officer, and later from Major Squier, who acted in his place when General Allen went to Europe, regarding photographers and correspondents, which were designed to leave to Mr. Wright and the officers in charge some leeway as to correspondents and photographers. Both General Allen and Major Squier—indeed, all the officers connected with the tests—have been extremely kind and courteous to me all the way through and it is a pleasure to be able to say so publicly.

But at its best it was a difficult job to get just what you wanted.

It was easy enough to get a picture of the aeroplane in flight—but to get it just when you wanted it, and with just the position of wings and rudders, and then, just where you wanted it with regard to the sun and buildings was another story. Wright flew about 38 miles an hour, most of the time, and he would get around the mile parade ground in less than two minutes. You had to take your stand where your experience or your Luck-God told you to, and hope that when he was where you wanted him to be, he would do what you wanted him to.

The first experience was hair-raising, to me. I dare say that the majority of the photographers who were there on picture work alone, took it very coolly. I own cheerfully to being excited. Those of us who have been interested in aerial work for a long time, and have followed the developments here and abroad couldn't help but feel some thrills at the very first public flight of the "mysterious Wright" in America. And when, suddenly, with hardly any warning, the kite-like structure flew down its little track and rose in the air, dipping and darting and twisting and turning and behaving as if it was a bird just learning to fly and not altogether sure whether it would fly or dash its brains out—there was a wild yell from the crowd in which the click of a dozen cameras was utterly lost.

After that we got used to the sensation and made plate after plate with the same ease we would have felt had we been photographing motor cars or men on horseback—instead of a man on mechanical bird-back.

It required a pretty good speed of shutter to stop the motion when the machine was near. I used a three-eighths inch slit and the highest spring tension on my Graflex most of the time, and occassionally rose to the top with the one-eighth, on a start or dropped to the three-quarters when the machine was

Just after leaving starting rail, weight tower in background to left.

Over the weight tower.

some distance away. Many—probably most—of the photographers use Sigma plates. I used Hammer red label straight through. Jimmy Hare used film packs a lot of the time although he also had plates with him.

Most of the out-of-town photographers would come and go—come for the first flight, wait for it—and take the night train back, developing as they went, and return later. Not infrequently I shipped plates to the *Herald* undeveloped—having the holders whisked from my hands by a man waiting on a wheel to ride, speed laws defied, to the station to catch the six o'clock train to New York. Other times we developed them and mailed prints the same night, when the negatives had been made too late for the train. Meanwhile, I had my wire story to write and my cable story to 'phone in, and I am free to say that the judgment of many of my brother correspondents that in attempting to do both pictures and story, I had bitten off more than I could chew, was some times almost justified. Later on my good friend Arthur Miller of the Washington Bureau of the New York *Herald* came out and helped me, and he helped a lot, relieving me of much telephoning in.

And then came the final flight—the tragedy. I wrote myself out on that story and it isn't pleasant to rehash it new. Selfridge was a man whom I greatly admired. It is my loss that I did not know him better. He was of the highest type of Army officer and the highest type of American manhood. This is no praise of the dead because he is dead—he was known everywhere as a splendid fellow, and one who combined brains and brawn, gentleness and strength in the proper proportions to make a finely rounded man. I was somewhat closely associated with him for

Over Fort Myer parade ground.

A side view showing a tilt for a rise.

weeks—seeing him twice every day, for hours at a time, as we sat in the officer's tent, deserting our own press tent to spin yarns and ask questions and "wait for the wind to go down or Wright to go up." Then, to see him killed before your very eyes, was the more harrowing experience that it was so totally and absolutely unexpected.

I had walked up the field with Lieutenant Selfridge and Mr. Wright, and Lieutenant Creecy, of the Marine Corps. I had begged and begged,—almost on my knees,—for a ride, and I turned to Lieutenant Selfridge just before we got to the machine and said, "Lieutenant, I want you to remember, when you are sailing around up there—that there is a man down here with a camera who is envying you every breath you take."

Lieutenant Creecy broke in "And he isn't the only one either." Either Creecy or myself would have changed places with Selfridge with the greatest of delight if we could have done so.

Then he and Wright climbed in, and I took the picture,—the last picture of him conscious, with his hand on the trigger which released the machine. It is an excellent likeness of him and enlarges well.

Well—they circled the field three times, to the cheers of the crowd. The nine minutes six seconds record for two men was to have been broken. Suddenly, something happened—no one knew what then—a piece of a propeller flew off, the machine wavered, seemed to turn over and fell. A gasp of horror, a moment's motionless silence,—then a mad silent race across the field.

Jimmy Hare, Ashton, and myself were the only ones with cameras—save some present with cameras for pleasure only. We got there too late to help taking the injured men out, and devoted ourselves to making pictures. It was a troublesome job—dodging the hoofs of the guard which was trying to get the crowd back—working in a choking dust and in the dark—nearly, but we did it. I haven't seen but one of the pictures of Hare and Ashton, but I have no doubt they are excellent. I had time to note Hare, taking pictures as coolly as if it were a pink tea, instead of a tragedy. My own pictures I prize highly—and two of them are extremely valuable as showing with absolutely unquestionable evidence that it was the right hand or starboard propellor which broke against the guy wire.

There is no need to recount the accident or its cause here, except to say that it is thoroughly understood, in detail, now, from internal evidence of broken parts and that it is no more to be considered as detrimental to the reputation of the machine, than a burst tire and an automobile wreck is considered detrimental to the automobile. It was a preventable, structural accident, and had nothing to do with the principle of the machine or the skill of the operator.

I do not care about going through such an experience again. I do not care to photograph men I admire and like in health and strength one minute and ten minutes later picture them with broken heads and bloody, lying on a stretcher, and have them die of those injuries. Yes, I made such a picture—no, it isn't here. It hasn't been printed—and if I can help it, it won't be.

And that is all the story—a rambling, impractical sort of story, too, I guess you will say, but I know there are some who will find it interesting—even if that some be limited to Jimmy Hare and Ashton with whom I shared the event—the biggest news event for pictures in a year, and to see and picture which some dozens of photographers I knew would have given eye-teeth.

A CONVENIENT HOME-MADE PRINTING FRAME.

BY W. S. DAVIS.

FIRST obtain a piece of glass somewhat larger than the size negative the frame is intended for. An old 5 x 7 plate with the film removed, is good for a 4 x 5 frame, or a piece of clear window glass may be used.

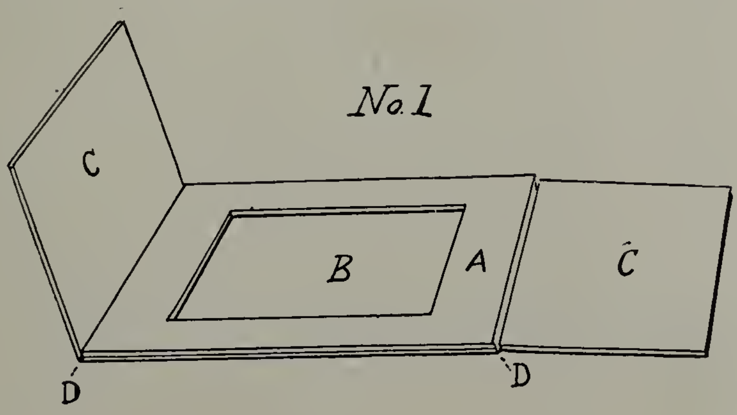
Then cut a piece of cardboard A (a thin card mount is suitable) to the same size as the glass, make an opening B in the center the size of negative, and glue the cardboard to the glass, and place under pressure to dry.

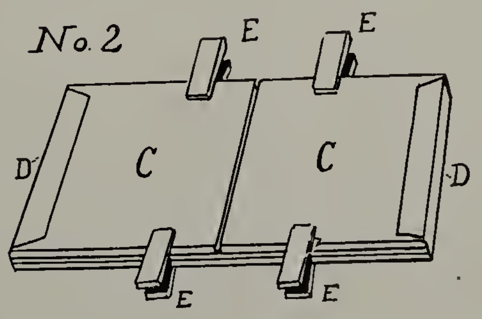
Now take another piece of glass or cardboard the same size as the first, and cut in two through the center, to make the back flaps CC. The glass is a little more troublesome to use in making the flaps, but it has the advantage of not warping, as cardboard may do. If the glass is used it should be covered with dark paper to prevent the light from acting on the back of the printing paper. Attach the flaps CC to the frame by glueing strips of cloth or soft leather over the ends DD as shown, which completes the frame.

To use the frame the flaps are turned back, the negative placed in position in the opening B, the printing paper adjusted, and a sheet of soft cloth or blotting paper laid over all to insure proper contact, then the flaps are turned down and fastened by four spring photo clips E as shown in sketch No. 2. The print can readily be examined by removing two of the clips from one end, and lifting one of the flaps.

If the frame is to be used only with developing papers, where the progress of printing can not be seen, the back may be made in one piece, and need not be hinged, which would save trouble in making it.

Aside from the fact that such a frame can be quickly and easily made almost anywhere, it will be found more convenient for some kinds of work than the regular style, as for example if one wishes to print upon paper larger than the negative when it is desired to have a wide margin on the print, or in combination printing when the negatives often have to occupy different positions, to make the parts which are wanted from each, come in the right position on the print, the paper can be moved about to bring it in the right position over the part of negative it is desired to use, which cannot be done with an ordinary frame of the same size as the negatives employed.





ADVANCED GETTING RESULTS.

BY C. H. CLAUDY.

IN SIX PARTS—PART III.

WHEN a man has mastered the elements of photography his attention is usually diverted from the subject as a whole towards some specialty. He devotes most of his time to landscapes, or portraits or flowers or animals, or just to "pictures" using the word in the sense the artist uses it. Some times he goes after speed work,—an exacting and fascinating branch, and from it works up—or down—to slow focal plane work, which is mighty interesting in that it enables you to do things which can't otherwise be done—like snapshots, indoors and in dark corners and under trees and in the evening.

The focal plane shutter, as you of course know, is a device consisting of a curtain, with a slit in it, which is made to pass as close in front of a plate as it is possible to get it. The curtain is wound up and held, and the pressure of a button releases it, and a powerful spring below draws the curtain down, passing the slit across the face of the plate and letting in the light from the lens which is wide open all the time.

The first thing which you will have to learn when operating a focal plane shutter is that you can no longer think of your speeds in multiples of ten. You cannot think of a 25th as a slow snap, a fiftieth as fast, and a hundredth as the limit of your shutter and as apt to give you an undertimed negative. Focal plane speeds run, generally to the one thousandth or the twelve hundredth part of a scond, and the higher they go, the more efficient they are in comparison to a similar speed made with a between-lens shutter.

I can remember as if it were yesterday my first experience with a focal plane shutter. I was making some pictures of children at play, had a lens working about at f6.5 and a focal plane shutter which I knew no more about than I did about the language of the cave dwellers. But I did know that it was faster than the usual shutter, speed for speed—or rather, that, speed for speed, it gave greater illumination. So I boldly and wickedly wound it up and set it to give an exposure of one one-hundredth of a second, used the lens wide open and wondered if I was going to get anything but soot and whitewash, under-exposed and contrasty negatives.

I shall never forget the development of these plates—which was in pre-tank days, or the astonishment with which I saw them flash up and fade away, or my utter disbelief that I hadn't a bunch of fogged plates, until careful examination, after fixing, proved to me that I had over-exposed about five times.

You will have to learn that the focal plane shutter has great capacities for passing light—learn not to be afraid to use sufficient speed of the curtain, and sufficiently small a slit, to get the contrast you desire in your negatives. Besides this, you will have to learn, in speed work, the exposure is not usually dictated by the conditions of light but by the movement of the object through space, the focal length of your lens, and distance you are from the object. It would be wasted space to repeat such information here. Folmer & Schwing publish a booklet which contains all the tables, and the *Photo Miniature* on focal plane work has also excellent working directions, as to speed of shutter for various speeds of objects, distances from them, and focus of lens.

The development of a speed negative is somewhat different from the development of an ordinary negative. Speed pictures, are, as a general rule, under timed. That is, the speed of the shutter has been calculated to stop the movement to within the hundredth part of an inch on the plate, and without regard to the light. There are cases, of course, where in the most brilliant sunshine possible, and sufficiently far from the object, a speed of one twelve-hundredth of a second will with a lens of large relative opening, give a fully timed negative. As a general rule, however, plates made at extreme speeds are under timed.

Now there are two courses open to you. You can develop for truth as to nature, and lack density and contrast and dodge and worry with the print—or you can come roundly out in the open and over-develop, get a fairly dense and contrasty negative and then print on a softer paper to get back somewhere near truth in contrast. For all record work and particularly for all illustrative work, the latter plan is the best plan. You will have to get over minding black shadows in backgrounds where they do not matter in order to obtain brilliancy in the print. Negatives made in this way are over-developed from twenty-five to a hundred per cent. But if this is done in the tank—and the tank par excellence the device for *all* developing, is most particularly useful in developing short exposures,—the additional density will not obscure detail nearly so much as if a forced and quick development was resorted to in the dish.

I cannot undertake to advise you as to a separate developing formula for high speed exposures, without knowing the plates you use and the methods of your work. As a general rule a developer for slight exposures should be richer in both reducing agent and in alkali, in order to make the most of what silver has been affected by light and to allow the maximum effect of the agent by allowing the pores of the gelatine to open as much as may be. On the other hand, a slight exposure has a greater tendency to fog in forcing than a normal one, so the alkali should be added with caution. In my own practice with a plate such as Hammer's Red Label, I use about fifteen per cent. more pyro than in the normal Eastman pyro powder formula, and develop for a time exceeding the normal at 65 degrees in a tank by per cents. ranging from ten to a hundred according to the subjects. I am perfectly willing to admit that this isn't telling the truth in a picture, but I am also prepared to swear that I sell such pictures in wholesale lots to magazines for reproduction purposes.

When it comes to making use of the focal plane shutter for slow snapshot work, a new field is open to the operator. The idea of making snapshots indoors—real snapshots with the camera held in the hand and which will stop slow motion seems somewhat revolutionary yet with a fast plate and lens, and the slow speeds of the focal plane and the correct arrangement, it is easily done.

You want a light room—of course. The focal plane shutter will not produce miracles for you. You will have your subjects light in dress and with light surroundings, for dark furniture and dresses do not reflect enough light for even a slow snapshot. Set your shutter with the lowest tension, and the largest slit that it will give you and still allow the curtain to drop and blaze away. Here you do not want to over-develop—for the black shadows under a tree in the landscape which do not worry your eyes much in looking at a runner or jumper or baseball player in the picture, transferred to the parlor or the nursery are extremely distasteful. Develop with a normal developer much diluted—dilute the formula for tank work by half as much water again and leave double the time, and be satisfied with a thin negative, which, properly manipulated, will yield you a good print. I have done it, not once, but hundreds of times, and I have rarely failed at it, from knowing that plenty of light at the start was the prime essential and a slow and sure and not too great development the logical finish of the operation.

As all under-exposure tends to contrast and as both interiors and portraits are the last things in the world which should be contrasty in a print, it behooves you to remove as much contrast in the first place, before making the exposure, as you can. This means no windows shut in a room, plenty of light reflectors in the form of sheets and pillow cases thrown over chair backs to send the light into dark corners, and no white dresses against dark wallpaper—or no very dark dresses against light wallpaper. Have the general tone of the picture even—as little original contrast as maybe, and your snapshot indoors will be the better for it.

Outdoors you will find that the tenth or twenty-fifth of a second on the focal plane shutter will allow you to make exposures under trees and porches, and very early at sunrise, and late, long after the sun has gone—in the rain, on dark days,—when, with the usual type of shutter nothing but a bulb or time exposure would do. As you probably know, if you have read the Kodak Baby Book, I have kept a record of my young son from the day he was born. Pictures of him on his birthdays are of course vital to that record. Two of his four birthdays have been rainy ones. Usually I don't take him out and ask him to pose in the rain, but I have done it on both birthdays, and both times I have secured perfectly timed negatives by the use of the slow speed on a focal plane shutter and a quick lens, even with lowering clouds and dropping water to make the task difficult.

The same light-passing ability of the focal plane which permits you to make snapshots with wide open lens in dark hours, will yield you good results with the lens stopped down in bright lights. For instance, I recently had, in common with some other illustrators, the job of making pictures of a flying machine, while it was at rest upon the ground. What was wanted was a set of sharp detailful pictures of details of the machine. This meant working close to the machine, and the necessity of stopping down to render the distance sharp with the foreground. The machine was pretty well hemmed in with curious onlookers. Some of us had tripod cameras and some of us had hand cameras—I carried my Graflex. I made all the pictures I wanted — a dozen, in about seven minutes,—had my lens stopped down from f8 to f22.5 held the camera in the hand, and walked around the machine, and used the tenth of a second slit and tension, while those unfortunates with tripods had to worry until the crowd would give back, and make short time exposures. I have compared results since and there is absolutely nothing about my pictures to show they were made as I have described it—they were just as sharp and just as well exposed and had just as much depth as those of the men with the tripods, yet I worked in comfort and walking about and finished in seven minutes and they took five times as long, had no comfort and got no better results.

But there is one thing you must learn and remember in this work—you absolutely must learn to press the button or touch the knob or whatever it is your shutter requires to set it off, with enough force to move it only, and don't jab at the camera as if you were going to punch a hole in it. If you do, you will move it, and of course that is fatal to the picture. A tenth of a second is a long time, photographically, and you must learn not only to hold the camera still while it is going on, but you must learn to press the button so that this stillness is not disturbed.

I should strongly advise some few half-hours of practice in this little matter without plates, but I am pretty sure you won't take the advice. After you have brought home a few precious opportunities spoiled, by movement of the whole camera, and which you can lay surely to punching the side of your instrument in a vain hope that haste will get it before it leaves the field of view, and without thought of what that punch is going to do to the picture, you will be in a more amenable frame of mind.

Opén confession is good for the soul, so I had better admit right away that I am not proof against doing things wrong, by a long chalk. I am bitterly ashamed to say it, but not so very long ago, I was photographing a dirigible balloon in the air—a breeze came along and punched in the end of it; I had never seen this happen before, and I was afraid it wouldn't happen again; I punched at my button and I punched too hard, and I have two dirigibles with two puffs of wind caving in the two ends, and I have also one large empty barrel formerly used to contain healthy cuss words. I evidently needed some of that practice I advise, myself. The rest of some two hundred pictures were all right, so I am comforted, but I mention it lest you imagine I am either upon, or imagine I am, a pedestal of operative perfection. I wish I were. Yet the road there is the road of practice—and if you follow it, as I have pointed it out, I make no doubt you will beat me, and your fellows, to the goal.

PHOTOGRAPHING UPON WOOD.

BY A. J. JARMAN.

DURING the past six months the writer has received several inquiries asking how photographs can be made upon wood, one inquirer stating that many views can be rendered in line upon wood better than the half tone etchings produced upon zinc. This may or may not be a matter of opinion, still as the inquirers tried to show that there are occasions when it may be necessary to produce a photograph upon wood as a basis for the engraver, the method that was adapted for such purposes is given here in full.

In the first place a reversed negative is necessary, or, what will answer the same purpose, a good brilliant *film* negative, the printing of the image being done from the back of the film, the thickness of the film in this case being of no consequence. To prevent the absorption of water, all parts of the wood block should be lightly coated with white wax dissolved in benzine taking great care that the face of the block that is to be printed upon does not receive any of this material. The compound for surfacing is made up as follows:

Gelatine, Coiguets or Heinrichs.....	60 grains
White castile soap.........	60 "
Water	8 ounces

The gelatine can be melted after soaking for twenty minutes, and heated to 180 deg Fahr. in a vessel with water boiling around it. The soap must be cut into very fine shavings and stirred well with a strip of glass, or better still, with an ordinary egg beater. The rotary arms of this little piece of mechanism will soon cut up and mix the soap and gelatine. A small quantity of alum in powder must be added, about twenty-five to thirty grains, stir well during this addition, and filter through two thicknesses of washed out and wetted cheese cloth. A portion of this liquid is taken and ground up in a small glass mortar with a small quantity of zinc white. A few drops of this ground, as it is termed, is placed upon the wood block and rubbed well in, so as to produce a very smooth and even surface. It is then allowed to dry which must not be forced by heat.

The following mixture must now be made up and well beaten into a froth by means of a silver plated fork, or better still a solid silver fork. The egg beater must not be used for this mixture, because any trace of iron or tin would ruin the print upon the surface of the block after sensitizing:

Distilled water	1 ounce
Albumen of one fresh egg.....	
Chloride of ammonium c.p.....	18 grains
Citric acid (powdered)........	5 "

This mixture must be well beaten up and allowed to settle, which will require about twelve hours. It should then be filtered twice through a tuft of absorbent cotton pressed lightly into the neck of a glass funnel. This mixture is applied with a broad camel's hair brush fitted with a rubber backing. The coating must be done in one continuous sweep, so as not to mark the surface. This is now allowed to dry spontaneously.

SENSITIZING.

As soon as the surface of the block is *quite* dry, it must be sensitized with a solution of nitrate of silver made up by mixing:

Nitrate of silver (pure)......	100 grains
Distilled water	2 ounces

A small quantity of this must be poured upon the surface of the block, away from strong light, and carefully guided over every part with a round glass rod. A round rod is necessary because the surface must not be scratched or abraded in the least. Drain off the excess of silver solution into another bottle, which after a number of blocks have been sensitized can be filtered for future use. The surface must now be dried as quickly as possible in a slightly warm place. When it is completely dry, the printing of the image may be proceeded with.

PRINTING THE IMAGE.

Place the negative (if a film) back down upon the sensitive surface, hold it in position by clean glass plate, and two stout india rubber bands stretched over the ends, thus holding the film, plate, and block well together. If the negative is an ordinary reversed one, then it must be placed upon the block face to the sensitized surface and held in the same way. Another negative of a similar quality must be placed in a printing frame, and a piece of sensitized paper placed upon the surface, so that it may be examined from time to time, because the negative upon the block must not be disturbed during printing. The depth of printing must only be carried as far as the test print will appear to be a nice looking picture. Printing in this case must not be carried so far as ordinary printing. When the printing is complete, remove the negative and insert the face of the block into a tray of strong salt and water, in fact, hold the block in this for about three minutes, lift it, soon after the first immersion to see that no air bubbles are found. If so, dip it again, and examine after the three minutes. Now wash the surface well in a gentle stream of water and completely fix it in a saturated solution of hyposulphite of soda, hold the block face down in this just the same as the salt treatment. About five minutes will be required for this operation. Although the image will lose a little in the salt bath, it will become much stronger in the hyposulphite bath.

The print now being fixed must be well washed under the faucet in a gentle stream of water for several minutes, then stand the block upon the edge to dry.

Do not allow it to remain with the wet surface up, because this is apt to cause the absorption of water, and will take much longer to dry.

The trace of wax upon the sides, ends, and back of the block can be easily taken off with a keen bladed knife, taking care not to injure the print. When the surface of the block is quite dry, the picture will be found to be perfect in every particular, and well suited for the purpose of the engraver.

Toning with a solution of gold can be carried out if desired previous to the salt bath and fixing, but it is not necessary.

MONTHLY FOREIGN DIGEST.

TRANSLATED BY HENRY F. RAESS.

Ammonium Thiosulphate, by A. and L. Lumiere, and Seyewitz.

Ammonium thiosulphate was first used as a fixing agent by John Spiller, in 1868, since then many others have suggested its employment in place of the sodium salt. These authors claim for it the advantage that it dissolves silver bromide with greater rapidity and its greater solubility made it easier to remove by washing and never causing any stains or colored marks on plates or papers. For a long time this fixing agent was not applied on account of the deliquescence of the crystalized salt. To overcome this it was proposed to form the ammonium thiosulphate at the moment of using it by making a mixture of sodium thiosulphate and ammonium chloride or sulphate. Various mixtures were suggested, and these were looked upon without any careful tests, to prove their advantage, as a substitute for sodium thiosulphate. In the present study, we propose to elucidate various points respecting the employment of a mixture of ammonium chloride and sodium thiosulphate and to determine if these mixtures possess any advantages as a substitute for sodium thiosulphate or not. Towards this end, we have attempted to make clear the following questions:

1st. What are the proportions of sodium thiosulphate and ammonium chloride which will dissolve silver bromide the quickest?

2nd. What is the solubility of silver bromide in this fixing bath in various concentration compared with plain sodium thiosulphate?

3rd. What is the stability of the double salts which are formed in the fixing bath? Is their stability greater or less than the double salts of silver with pure sodium thiosulphate.

4th. What are the limits of exhaustion of fixing baths which contain only sodium thiosulphate?

5th. And finally, is the removal of the excess of the reagent in one case or the other quicker.

1.

To a 15% solution of sodium thiosulphate, we added increased amounts (2 to 20%) of ammonium chloride in order to determine the time of fixing in these solutions. We found that the quickest fixing took place when the quantity of ammonium chloride was equal to ¼ of the amount of sodium thiosulphate, in this case the time of fixing is three times less than when sodium thiosulphate alone is used. The duration of fixing grows as the amount of ammonium chloride increases and when the amount reaches 15% to 20% it no longer presents any advantage. When the concentration of the sodium thiosulphate was increased from 15% to 40%, we found that the relation between the time of fixing with and without ammonium chloride is rapidly reduced with the concentration of the sodium thiosulphate. When a 40% sodium thiosulphate solution is used, an addition of ammonium chloride increases the time of fixing.

2.

Is the rapidity of fixing afunction of the solubility of silver bromide depending upon a simple phenomena ofdiffusion or an easier penetration of the fixing solution into the gelatine film? To answer this question, it is sufficient to determine the solubility of silver bromide in the various solutions. The following table gives the results of these trials:

Amount of Sodium Thiosulphate in solution.	Solubility of silver bromide in 100 c c. (3⅓ ozs.) of sodium thiosulphate sodium.	Addition of ⅓ the weight of ammonium chloride.
10 %	3.64 gms.	4.91 gms.
15 %	4.37 "	6.04 "
25 %	8.11 "	9.34 "
40 %	11.30 "	10.90 "

These results confirm those obtained above relative to the rapidity of fixing in sodium thiosulphate solution of variable concentration with the addition of ammonium chloride.

3.

In order to study the stability of the salts formed by the mixture of fixing soda, and ammonium chloride we prepared a saturated solution of silver bromide in a solution containing 250.0 gms. (8 ozs.) of fixing soda and 110.0 gms. (3 2/3 ozs.) of ammonium chloride in 1 litre(33 ozs.). These are the theoretical quantities necessary for forming ammonium thiosulphate. This saturated solution was filtered and allowed to stand; after some time crystals formed which were insoluble in water. They contained sulphurous acid, silver, and ammonium. It is without doubt a double salt comparable to sodium silver thiosulphate. This resulting compound is unstable. It blackens at a temperature of 50 deg. to 60 deg. C. (122 deg. to 140 deg. Fahr.) with the formation of silver sulphide. If to the clear mother liquor is added half of its volume of alcohol, white pearl-like flakes precipitate. These when dried on bricks becomes slowly brown in moist air. This compound contains sulphurous acid, silver, and ammonium. A similar compound can be obtained by precipitating with alcohol a saturated solution of silver bromide in sodium thiosulphate. This precipitate is more stable as it does not become brown as the compound containing ammonium. These results seem to show that silver bromide plates or papers which are fixed in a mixture of sodium thiosulphate and ammonium chloride are more likely to suffer a change in case the double salts are not fully removed by washing, than those which are fixed in pure sodium thiosulphate.

4.

We examined the various fixing baths to see if the limits of exhaustion varied according to their composition. In all of our tests we added, always using the same volume of fixing bath, increased amounts by weight of pure silver bromide prepared in the dark. Of every solution a drop was spread on a strip of filter paper and subjected to the action of light and moist air for several days. In every case, the maximum weight of silver bromide was determined which could be dissolved in the fixing bath without producing any appreciable browning on the above mentioned strip of prepared filter paper. The results of these tests are given in the following table:

Contents in 100 cc. (3⅓ ozs.) of fixing bath.		Maximum weight of silver bromide dissolved in 100 cc. (3⅓ ozs.) of solution without afterwards browning.		
Sodium thiosulphate gms.	Ammonium chloride gms.	gms.	to	gms.
5.0		1.0		1.25
5.0	2.0	0.25		
15.0		3.25		3.50
15.0	6.50	0.75		1.0
45.0		5.0		5.25
45.0	19.5	3.0		3.25

If in the case of pure sodium thiosulphate the limits of exhaustion are passed, a weak yellow color is found. This color increases slowly with the quantity of silver bromide contained in the solution, while if ammonium chloride is present, it becomes intensely black on account of the decomposition of the double salt. We tested the double salt of ammonium and silver to see if it is more quickly removed by washing in running water, than the double salt of silver and sodium. For this purpose we fixed a dozen 5 x 7 sheets of bromide paper in 15% solution of sodium thiosulphate, and another dozen sheets in a similar solution to which was added 6.5% of ammonium chloride. Each of these series of sheets was washed in running water under exactly the same conditions. Every fifteen minutes a sheet of each test was taken from the wash water and a drop of silver nitrate solution placed upon it, a black spot of silver sulphide was formed, the intensity of the color depending upon the amount of thiosulphate remaining in the paper. By this method and washing for several hours, we could notice no difference in the rapidity of removal of the thiosulphate in the two sets of papers. The above results lead to the following conclusions:

1st. The addition of ammonium chloride to the sodium thiosulphate accelerates the fixing of silver bromide plates and papers only when the amount of sodium thiosulphate is less than 40%.

2nd. The amount of ammonium chloride producing a maximum of acceleration of fixing is considerably less than the theoretical amount necessary for forming ammonium thiosulphate. When more than these theoretical amounts are used, the rapidity of fixing is less.

3rd. The solubility of silver bromide in sodium thiosulphate is considerably increased through the addition of ammonium chloride when the concentration of the thiosulphate is less than 40% on the other hand the solubility becomes less when this concentration is reached.

4th. The silver double salts which are formed in a fixing bath of sodium thiosulphate and ammonium chloride are much more easily decomposed than those formed in pure sodium thiosulphate.

Also the new bath, becomes sooner exhausted than with the old method.

5th. In spite of the advantages which a mixture of sodium thiosulphate and ammonium chloride present as a rapid fixing bath, this method we believe will have to be rejected on account of the great instability of the double salts which would cause a rapid change in the pictures if the washing were insufficient. —*Bulletin de la Societe Francaise de Photographie,* Vol. 24, No. 10, May, 1908.

Micro-organisms in color Photography, by K. W. W. Czapek.

This idea of using bacteria is not mine but comes from medical circles. It is the possibility of using micrococci for color filters or screens. For instance, the staphyloccus pyogenes, (these are round cells) forming irregular turbid masses, they are the cause of several pus-forming diseases. In size the cells vary from 2/10,000 to 2/100 m.m. while starch grains are much larger 1/80 to 1/60 m.m. The coloring or dyeing of these cells presents no great difficulties as they may be easily dyed with basic aniline colors. They are easily propagated and when placed on glass plates they will adhere on heating without change of form. There are no doubt many difficulties in carrying out this plan, but if they can be overcome, which only practical trials will show, this method undoubtedly will be of great value as the cells are smaller and more transparent than the starch grains—*Photographische Industrie*, No. 47, Nov., '07.

"Vignetting" of Lenses, by Dr. L. L. Klintjes.

On viewing a number of autochrom positives either by transmitted light or on the screen, a marked loss of color brilliancy will be noticed towards the edges of the plate. The silver image is denser here than at the center. This is caused by the lens not giving the same illumination at the edges as at the center. This loss increases as the speed of the lens becomes greater, but by the use of appropriate diaphragms, this uneven illumination can be reduced to practically nothing. According to Dr. Miethe the loss of light is as follows:

Angle	Light intensity
0 °	1.00
5 °	0.98
10°	0.94
15°	0.87
20°	0.78
25°	0.67
30°	0.56
35°	0.45
40°	0.39
45°	0.25
50°	0.17
55°	0.11

(Vignetting or uneven illumination has been greatly reduced in the anastigmats and they consequently give better results when used for rapid wide angle work than the older type of lens.—*Photographische Rundschau,* Vol. 22, No. 5, 1908.

Rapid Drying of Sensitized Carbon Tissue.

Carbon workers know the importance of rapidly drying their sensitized tissue. Alcohol has been used for this purpose, but the following is said to be the best so far suggested:

English.		Metric.
3⅓ ozs.	Water	100 c.c.
2 drams	Potassium bichromate	8.0
5 ounces	Acetone	150 c.c.

Pigment papers sensitized with the above solution dry in from five to ten minutes.—*Deutsche Photographen, Zeitung,* Vol. 31, No. 49, Dec., '07.

Editorial Notes

MOST of us get in a rut; we have certain likes and dislikes; we do the things that interest us most, and are apt to follow the line of least resistance. Well why should we not follow our pet inclinations when it comes to our recreations, why should we not do the things we like to do best, and let the rest go hang? Simply, my dear sir, because in so doing we get in a rut, and follow its more or less devious windings, unmindful of the beauties outside it. Perchance we are most interested in portraiture—true it is a most interesting and fascinating branch of the work, but why devote ourselves to it exclusively. Once in a while take a little hand camera with you and get out into the open—try your hand at land or sea scape—at once a new world of beauty is open to you—you are out of the rut. Freshen your mind, receive new impressions, broaden your view. You will not only add some jolly good negatives to your collection, but you will be able to make better portraits when you again return to your favorite branch. Same way with you, Mr. Landscape man, try your hand at the portrait end of it—study the beauties of the human face and form and the subtle play of light and shade, and you, too, will learn much. Get out of the rut.

* * *

It has occurred to us that perhaps some of the competitors in our monthly print competitions may have become a bit discouraged in so often seeing some older and well known workers carry off the awards. While of course in open competition merit must win, we want to give all of you an opportunity, and to this end, are going to divide our December competition into two classes: First class A. Open to all with the regular awards. Second class B. Open only to those who have never received an award in any competition. The first award being five dollars, the second three dollars, and three Honorable Mention with a six months' subscription to the PHOTOGRAPHIC TIMES.

If this divided competition proves a popular feature, we shall be glad to continue it. The same print may be entered in both classes, but can receive an award in but one. Now all you discouraged ones, put in your best licks and let us hear from you good and strong.

* * *

Here's another idea, not original with us, but a good one just the same. Several of the household magazines contain a discoveries department, the object of which is this, to publish in concise form any little new way of doing things—say such as a new way for drying prints, so they will lie flat, something new in a homemade postcard album, a simple method of masking for double printing. In fact any little stunt you may have evolved for the economical or speedy attainment of any photographic result. We want your ideas for the rest of our readers. Send us just a short description, and a rough drawing if possible. If we can use your suggestion we will mail you a check for one dollar. Earn that dollar *this* week.

ENLARGING ON VELOX.

BY CARITA LEMMON.

WHAT amateur has not a number of negatives which he treasures because he can never duplicate them; but which alas! are thin and flat, only printing up respectably on some contrasty paper like regular Velox?

Now, suppose him to be working with one of the smaller kodaks (which will be the case if he is wise), and desiring to have his treasured, flat, little "Two by twice" enlarged to, say 5 x 7, a far more attractive size. He has been told that bromide enlarging is perfectly easy and simple, and he goes to work hopefully. The process is perfectly easy and simple if the negative is technically good; but in the case of the amateur, with his flat little film, the way to a successful bromide enlargement lies through a series of experiments with different brands and grades of paper, different developers, and perhaps color screens to correct the flatness,—all of which takes time and money! Or he may take the film to a professional, who looks at him compassionately, and says the negative is hardly worth it. Small wonder if he sadly puts by the thought of an enlargement of that particular picture.

All this trouble may be avoided, and a good enlargement obtained, by his using, in place of the bromide paper, a larger size of the same Velox with which he can obtain a good contact print. To be sure, the exposure will take from five to twelve minutes, but he had better not attempt enlarging unless he has plenty of time. Moreover, if he does not want to use all the large paper in this way it can be cut into smaller pieces and used for contact printing. The author works with a Brownie No. 2 and a sheet of the 5x7 regular Velox which is kept for enlargements from weak negatives cuts into fourths for contact printing; the small sheets made in this way costing much less than they do by the package.

The amateur who has not tried enlarging is missing a delightful branch of photography, and if his negatives continue to be unsatisfactory, let him join the Eastman Correspondence College. He will at least learn to make a good negative, and if he wants to finish the course he will be able at the end to meet the professional on his own ground. This is not advertising, it is enthusiasm.

Do you always read the advertising section? If you do not, you are missing something. Most of the ads are changed every month and if you do not glance over them, how can you expect to keep up-to-date. More than that you owe it to the advertisers to listen to what they have to say. It is the advertiser who makes it possible for you to receive your magazine for so small an annual sum. Help those that help us to help you.

LIGHT FILTERS IN COMBINATION.

LAST week an editorial paragraph referred to the matter of using two light filters in combination, and pointed out the divergence of opinion as to what would be the multiplying factor of such a double or combined filter. A discussion was recalled in which one person said a ten times filter used in conjunction with a five times would produce a fifteen times, another theorist contending that if one passed a tenth and the other a fifth of this tenth the filter would become a fifty times, while the third, who was, in point of fact, probably nearest right, said the other two didn't know what they were talking about. Let us look for a moment at the matter theoretically, and then see what happens in practice.

GRAY FILTERS.

That is not exactly a correct term, for a gray glass or an even deposit of silver in a gelatine film, such as a uniformly exposed and slightly developed lantern plate, does not filter the light, but only stops a certain percentage of the whole volume. However, let us take two such gray glasses or films of such a degree of grayness that one will increase exposure ten times and the other five times. Now, placing the two together, we shall find that the combination will increase exposure fifty times, because as the one passes only 10 per cent. the second will only pass a fifth of this tenth part, which is a fiftieth. This is in accordance with the fairly well known theory of hypothetical layers of deposit in an ordinary negative. But are we safe in assuming that what applies to the stopping of a proportion of the whole volume of light will apply equally when we come to a true light filter?

INCREASE OF EXPOSURE INCIDENTAL.

The first point to be grasped is that the light filter is not used to increase the exposure, this effect being incidental. The function of the light filter is to keep back the superactive violet and blue rays, and thus give the yellow and orange a chance of impressing the plate. We must assume, for the sake of argument, that a well-made light filter does nothing more than keep back the blue and violet rays—that is, that it is perfectly transparent to all the rest of the spectrum. A yellow filter which looks brownish yellow has black mixed with the yellow—by accident, of course, and not by design—and this increases exposure while conferring no advantage as regard orthochromatic rendering. But a well-made pure yellow filter contains very little black, and we will assume that there is none, and that the glass itself does not stop any light at all.

QUALITY OF LIGHT, AND QUALITY.

Our gray glass stopped a certain proportion of the volume of light—that is, a certain quantity of light. The pure yellow light filter differs from the gray plate in that it stops a certain quality of light. If we examine a beam of sunlight passing through a yellow light filter by means of a spectroscope we shall find the spectrum is as bright and clear as if no filter were present, except only that part of the blue and violet will be entirely missing. With a suitable yellow dye the whole of the blue and violet may be cut out. Let us suppose we have such a filter, the absorption being abrupt just at the commencement of the blue, and the whole of the green, yellow, orange, and red being allowed to pass. Now we take a paler yellow filter, and place it against the filter already in position. What will its effect be? It cannot stop the green, yellow, orange, or red because it is transparent to all these, and the whole of the violet and blue are stopped by the original filter. Its effect, therefore, is nil. To take a homely illustration, we have some gravel and two riddles, one with a half-inch mesh and the other with an inch mesh. We pass the gravel through the half-inch mesh. Shall we get it any finer if we place the inch mesh inside the half-inch mesh and pass it through both? The dye of the light filter is simply a mesh which absorbs or keeps back certain wave-lengths of light, these various wave-lengths producing on the eye various color sensations. We have, however, assumed two things—the perfect transparency of the filter to green, yellow, orange, and red, and its complete absorption of violet and blue. In actual practice a filter, if of good quality, is so transparent that our assumption is not an unfair one. With pale yellow filters the second filter has the same effect as a little deeper dyeing of the first would have, and so an increase of exposure results.

AN ACTUAL TEST.

Two filters were taken and tested with a certain orthochromatic plate in order to find their multiplying factor, adopting the well-known method of exposing a plate in successive strips, and then noting which strip was of the same opacity as a negative properly exposed without any filter, the plates, of course, being developed together for the same length of time. The filters proved to be a six times and a three times. They were then placed together and another test made, the other conditions being unchanged. The multiplying factor proved to be 8. It would thus appear that where the color of the two filters is alike, the depth only varying, and where the multiplying factors are not high, it is fairly safe to *add together* the factors for the two filters and use this as the factor for the combined filter. The greater the absorption of the first filter the less will a second filter increase the multiplying factor. The dirtier the yellow—that is, the more black there is in it, the higher will the factor be for the combined.

POINTS WHICH HAVE BEEN NEGLECTED.

There are, of course, several points which have not been taken into consideration. The glass itself absorbs a certain quantity of light. The extra reflecting surfaces scatter some light and increase the risk also of slight general fog on the plate, particularly if working towards the light. As far as the main point at issue is concerned, however, it is safe to ignore these things. The latitude of the plate will enable a combination of six times and three times filters to be used as either eight, nine, or ten times without any appreciable difference in the resultant negatives.

Finally, the aim in color rendering is likely to be very slight when using two filters in combination as compared with using the deeper of the two alone, so that it is doubtful if the method is worth adopting. And, again, it is so easy a matter to make a test in the way indicated that anyone who wishes to combine any two filters may readily determine the multiplying factor for himself.

—*Photographic News.*

Items of Interest

There Remains Only October, November, and December for entries in Cramer's Amateur Photographic Contest, for best negatives made on Isochromatic plates. This contest is well worthy of our readers' attention, as it gives $300 in prizes, and the Fall is the best time to show the values of Isochromatic plates. If you do not know about it, write for conditions to the G. Cramer Dry Plate Co., St. Louis, Mo.

* * *

Special Prizes for Photos.—Attention is called to two new special pictorial contests for 1908, in which the readers of *Leslie's Weekly* are invited to engage. A prize of $10 will be given for the most acceptable Thanksgiving Day picture reaching them not later than November 1st, and a prize of $10 for the most attractive Christmas picture furnished by November 15th.

The amateur photo prize contest has long been one of the successful features of *Leslie's Weekly*. The publishers have decided to establish an additional contest in which professionals, too, may take part. *Leslie's Weekly* will give a prize of $10 for the best picture with *news* value, furnished by any amateur or professional. For every other *news* picture accepted for use $2 will be paid. All photographs should be accompanied by a very brief statement of the events depicted, for explanation, but not for publication.

The above competitions are open freely to all who may desire to compete, without charge or consideration of any kind. Prospective contestants need not be subscribers for the publication in order to be entitled to compete for the prizes offered.

N. B.—All communications should be specifically addressed to *Leslie's Weekly*, 225 Fifth Avenue, New York. When the address is not fully given communications sometimes go to *Leslie's Magazine* or other publications having no connection with *Leslie's Weekly*.

Messrs. Burke & James, Chicago, Ill., have been appointed the sole North American agents for the famous Koilos Shutter. This is a wonderfully fine shutter and is well worth your investigation if for any reason your present attachment is not wholly satisfactory to you. A copy of the Burke & James catalogue, No. 11, explains its workings and the catalogue may be had for the asking.

* * *

Eye Vision and Lens Definition.

Editor Photographic Times:

Dear Sir.—When a man becomes possessed of certain extreme ideas his infatuation often obliges him to part company with logic. He may be a crank in odd spelling, or in odd delineation of material things, but it does not follow that because one or two men, with some special aptitude for doing odd things in a clever way, have gained notoriety by their originality, that later emulators of Josh Billings and Whistler can boastfully lay claim, also, to be the only true exponents of correct orthography or of pictorial art. But your correspondent, W. S. Davis, writing on page 222, July, 1908, is evidently possessed of the same idea of so many who seek to ape the eccentricities of a very few adulated painters; that those others, of the overwhelming majority, who do not agree with them "not only know nothing of art, but glory in their ignorance." This "ignorance" is manifested in hearty appreciation of the work of the vast majority of all great painters, past and present, who depict things as apparent and comprehensible to all of us if normal, healthy, vision. The proof of "ignorance," to W. S. Davies, is approval of such artists as Meissonnier, Détaille, Bouguereau, Bonner, Millais, Leighton, and thousands of others whose naturalistic paintings have won the approval of the multitude in each year's exhibitions in Paris and London, and delight those who throng the Luxembourg and Louvre Galleries in Paris and the National Gallery in London. The writer, an artist of some repute, art-critic, contributor to photographic and art periodicals in England and United States during the last 22 years and a regular student in all the principal art galleries of Europe for 18 years past, has had many opportunities of observing the ridicule which the seekers of sensationalism, the "impressionists," draw upon themselves, with their poor drawing and shadowy delineation, not to speak of their fantastic colorings. It would be a wholesome corrective if "fuzzytypists" could overhear in French "Salons" the scathing remarks of French visitors referring to the frantic efforts of those "impressionists" exhibiting; and, if he could thus learn the opinion of others, Mr. S. W. Davies would not be able to express his animadversions sufficiently in two columns but would require half a dozen issues of the "P. T." to characterize the "ignorance" of such a people—reared as they are in an atmosphere of art. Condescendingly, he advises me to visit "numerous good exhibitions" in America; and in my turn I would suggest that he should visit the annual exhibitions of painting in Paris and learn what the public says of the "impressionist" phantasmagoria there.

Between "impressionists" there doubtless exists a marked difference of principle, that is: on one side those who seek, in painting "by the acre," to arrive rapidly, by some random fortuitous touch on the canvas, at fame, and, on the other side, those who paint with all the sincerity that their vision permits —that is abnormally defective vision. There are, unquestionably, many photographers, also, who are not blessed with a healthy, normal vision, and in this case they must be allowed the credit of sincerely trying to make their lenses delineate according to their own peculiar perceptions of material forms. The letter of Mr. W. S. Davies appears to indicate that he has not, at least, normal vision. He confuses issues by comparing the vision of "two normal eyes" with the representation of "one" lens on a flat surface. This little quibble can be avoided by making the number of eyes and lenses equal, and then, with this clear understanding, his error becomes palpable, for one good sound eye, of a healthy vision, will observe all (and more) than an anastigmatic lens can do with a small stop. The eye will, instinctively, penetrate into shadows and dwell upon minute objects that are often never defined or reproduced by the lens. The focus of the eye is adjusted instantly and incessantly for all planes of distance, from a yard or two to several miles, and the change is so instantaneous and instinctive that we are never conscious of the fact.Apparently, every object far and near, and in any lateral range, is always "sharp" and clear, and the result, as far as sense of vision goes, is keener than any image given by the best fine diaphragmed lens.

It is curious to observe how obstinately my critic endeavors to confuse various points. Another point which he mixes up is lens delineation vs. memory. He says "look carefully at a landscape, then turn the back to the scene and try to make a sketch of it." Strange reasoning. You don't sketch the view while you look at it; you turn away to do that! This is equivalent to focusing the lens on the scene and then, turning the camera's back to the scene to make the exposure! Possibly this is one of the "stunts" of a would-be "Corot and Millet" of photography; it might explain many a "fuzzytype" we have wondered at. This suggestion of turning away from the scene to see how much you'll remember of it in your brain, forgetting "the petty details," is surely to be remembered by camerists and artists. Cover up the plate or canvas and then begin recording, if you wish for, truly impressionist results.

If this is to be understood as purely a question of memory and not of delineation, a fairer test would be to make two photographs of the same scene, one fuzzy and swimming, and the other distinct and clear, and then, after regarding them, to turn the back upon the pictures and "try to make a sketch or write a description" of them. In the first case the mind would be left rather blank it must be supposed—something vaguely empty.

Again Mr. W. S. Davis endeavors in ambiguous terms to show that to obtain "an approximately *truthful* reproduction of a scene" the lens aperture must be large enough to keep the distance soft, and he appears to suggest that this effect is truthful according to our sense of vision. Now this is not so, and everyone can prove the contrary by simple experiment. Regard, for instance, an object in middle distance, a cliff, a bridge, or clump of houses. It will not stand out distinctly from the objects beyond it because everything observed by the eye, beyond the object chosen, appears in perfect focus and as crisp and sharp as a healthy vision allows. Now, look at the same scene on the ground glass of the camera, using a medium stop. The object will at once be seen to stand out with stereoscopic relief and the distance will be out of focus. Now this want of depth-of-focus is often of real utility, especially so in anastigmatic lenses, but it is noticeably artificial to our sense of vision in which objects are apparently sharp at all distances. No one with normal eyesight can deliberately, and with intelligence awake, look at anything and see it with blurred and swimming lines. Lenses permit of this being done, and the old portrait lenses, better still, enable the blurring of very large surfaces, the center being the only part sharply delineated; but judged by our sense of vision such effects are unnatural, and therefore unreal. In the large collection of beautiful color photographs by Lumière, in Paris, we may note the peculiar effect of blurring in colors. Nearly all the views are in perfect focus over the whole surface of the picture, but one view shows foreground trees on the lake side in the Trianon—these and the reeds being keenly sharp, but, beyond, the water and the Marie-Antoinette houses, on the opposite side of the lake, are not in sharp focus. This is clearly an accident (the photograph being made in the blue shades of evening and the lens probably opened out to avoid under-exposing) but this fuzziness, none the less, strikes the eye as being very odd and unnatural; as though the colors had liquefied and run. Fuzziness will, evidently, be no avail in the forthcoming art color photography. The "petty details" are always so delightful in colors. See this other picture of a luxuriant flower garden with its straight path of yellow sand running, at mid-distance, beneath a bower of blooming roses, and set in a background of dark trees under a pale blue sky. Under the bower a lady is gathering the pink blossoms, the upturned face being checkered with the vari-colored reflections in the brilliant sunlight. Upon the path lie a profusion of rose petals, some yellowed at their edges, and in through the keenly delineated mass of flowers and plant stems bordering either side of the path may be discerned pink rose petals lying on the brown earth. This exquisite picture may be studied again and again, each time revealing some new detail of beauty—perhaps a colored butterfly, perhaps some unsuspected feathered visitor. This may be Nature to the "ignorant" but it is not "Art" to the impressionist and fuzzy-typist. Whether it is more pleasing than the images produced by pinholes, spectacle lenses, and blurred pictures of every other variety, printed to give sad and doleful "impressions," characteristic of the prevailing fad, no extremist is qualified to reply, but an intelligent and discerning public possessed of good vision and a healthy appreciation of Nature's beauties may be safely reckoned to decide between nonsense and commonsense in art—faddists alone croaking at God's Creation.

Charles R. King.

* * *

Local Work During Development.—It does not require constant holding up to the light to watch the progress of the action; it is none the better for "tentative" treatment, adding the alkali gradually, a little at a time; it is none the better, if over-exposed, for bromide being added to the developer. Given the right developer at the right temperature, all we have to do is to put the plate, correctly or incorrectly exposed, in it, gently to rock the dish, and at the end of the proper time to take the plate out and fix it. "Reducing photography to a base mechanical level" I hear some critic say again. Not at all. We do not introduce the personal factor when we try and modify the plate during development, because we have seen that we cannot bring about anything that we cannot effect better and more simply by altering the time of development. Of course, I am not referring to local work during development, holding back parts of the picture by brushing a restrainer on them, warming parts to make the developer more energetic, and so on. That does have a very distinct effect, though I should hardly think any pictorial or other worker would advocate such a process. And for this reason. Everything done in that way on the negative has got to be done in reverse; we have to darken a part to make it lighter and to hold it back to make it darker in the final print: we have to do this before we have seen a straight unmodified print of the subject to guide us as to the extent to which the modification is to be carried, and we have to do it in a weak red light against time, for development is going on in the plate all the time we are doing our handwork, even if we rinse the plate first. There is nothing that can be done under these adverse conditions that cannot be done equally well, and done under much more favorable circumstances, by work in daylight, on the finished negative, and after a guide print has been made. I only point this out to avoid misunderstanding.

Factorial Development: Tank or Stand Development.—Before describing my own method in detail, let me mention two other forms of development, about which I am often asked. The Watkins system, or "factorial" development, is described in the *Watkins Manual,* and anyone who wishes to know all about it, as well as the Watkins exposure system, should purchase that admirable shilling book and read it carefully. I have nothing to say against Mr. Watkins's method; it answers admirably with correctly exposed plates, and those who use his exposure meter are not likely to have any others on which to try it. I do not deal with it here, because I am describing my own method of work. The other method is what is called "stand" or "tank" development. In this the plates are placed vertically, generally in a grooved trough, and immersed in very weak developer, possibly for some hours, being left quite without attention. If the time they are left is predetermined, and after the lapse of it they are taken out and fixed, there is nothing except the dilution and the vertical position which distinguishes it from my own method. If the photographer judges whether development is complete by looking at the negative, then it is only the ordinary development slowed down. I have tried it with most of the formulæ given for the purpose, and while the results have not been complete failures, they have in no sense been as good as those on comparative plates developed more quickly in a dish in the usual way. The long continued action of a very dilute developer has a distinct tendency to fog the plates—a fact that is recognized by those who put forward this method, as developers for stand development are always either comparatively feeble agents, such as glycin, or else have bromide added to them to counteract this tendency. Personally, therefore, I do not recommend stand development in the sense of slow development, but if any reader finds it suit his purpose, I do not know enough against it to lead me to attempt to dissuade him from using it.

* * *

Mixing up the Developer.—One of the questions I am asked most frequently by photographer is "what developer do you recommend." Over and over again I have pointed out that I do not recommend one in preference to another, that the developer given with the plates will produce perfect negatives on those plates if it is properly used, and that the fundamental idea underlying the question is a mistaken one. If only the exposure has been correct, almost any developer will make a good negative of it; certainly any developer that is put forward by the maker of the plate will do so. When I have pointed this out in reply, the inquirer has thought to corner me by saying, "Well, if you do not actually recommend a developer, what developer do you yourself use when you have to develop plates you value and wish to make the best of?" The reply must be equally disappointing, for it is to the effect that I am not at all particular. Pyro I have used a great deal, partly from old established custom, for I was a constant user of "Beach's developer" in the heyday of its popularity, and what proportion of my readers, I wonder, have so much as heard of its name. Beach's developer was pyro-potash, but pyro-soda is what I use now, when I use pyro at all. Pyrocatechin gives negatives in every way equal to those obtained with pyro-soda, and behaves in much the same way; I frequently use it, and like it in preference to pyro-soda, because it does not stain the fingers, even when there is a very big batch of negatives to be dealt with. No developer, properly made up, stains the film of the negative, but some have a great tendency to stain the nails and fingers of the photographer. Rodinal is another favorite with me, because it does not stain, and is always ready for instant use; and hydrokinone, which is supposed to give exceptionally hard negatives, is a much maligned substance. I recently developed a number of plates with amidol, which I used for no other reason than that it was the only developer I had by me and the shops were shut. Metol and metol-hydrokinone are used successfully by plenty of workers, and but for my susceptibility to metol poisoning, I should be equally willing to use them on plates that I valued. Amongst these, I am bound to say that I have no favorite developer. For purely economical reasons I think pyro-soda is, perhaps, the best, but its advantage is not very great.—*Photography.*

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